

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of                      Docket No: Q91600

Takeshi INABA

Serial No.: 10/560,910                      Art Unit: 1794

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Examiner: ELLEN S. WOOD

Title: LAMINATED RESIN FORMED BODY, METHOD FOR PRODUCING  
LAMINATED RESIN FORMED BODY, AND MULTILAYER ARTICLE

DECLARATION UNDER RULE 132

Honorable Commissioner of Patents and Trademarks,  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I, Takeshi Inaba, a citizen of Japan and having  
postal mailing address of c/o DAIKIN INDUSTRIES, Ltd.,  
Yodogawa Plant. 1-1, Nishihitotsuya, Settsu-shi, Osaka  
566-8585 JAPAN, declare and say that:

I was graduated from Ritsumeikan University, Faculty  
of Science and Engineering, Department of Chemical in  
March 1986 and received a Master Degree in Engineering  
in March 1988.;

I am one of the inventors of the above-identified  
application and familiar with the subject matter thereof;

I have read the Official Action mailed and the  
references cited therein and I am familiar with the  
subject matter thereof;

I respectfully submit herewith my exact report

thereon.

The following experiments were conducted by me or under my direct supervision.

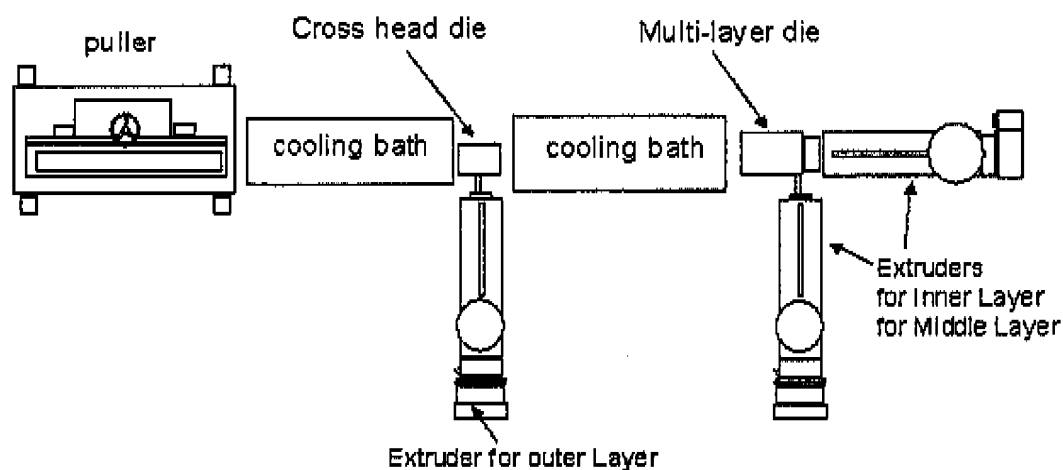
Example 31 demonstrates that, in sequential extrusion, because the outer layer is extruded on a non-melted and cooled layer, the bonding strength is insufficient.

#### Example 31

Using a two-resin two-layer coextruding machine equipped with the multi-layer die, the first tube with the intermediate layer and the inner layer was continuously molded by feeding the polyamide-based resin and fluorine-containing ethylenic polymer specified in Table 7 to the extruders for middle layer and inner layer, respectively. Then, the first tube was conveyed through cooling bath to the cross head die.

The thermoplastic resin was extruded onto a surface of the first tube by feeding the thermoplastic resin specified in Table 7 to the extruder for outer layer to give the second tube. Then, the second tube was conveyed through cooling bath to the puller.

Figure 1



The molding condition and the result of evaluation of the tube obtained are shown in Table 7.

Table 7

|                                   |                                | Experiment Example |
|-----------------------------------|--------------------------------|--------------------|
|                                   |                                | 31                 |
| Outer layer thermoplastic polymer |                                | TPU1               |
| Intermediate layer resin          |                                | PA-E               |
| Inner layer resin                 |                                | F-A                |
| Cylinder temperature (°C)         | Outer layer                    | 210                |
|                                   | Intermediate layer             | 210                |
|                                   | Inner layer                    | 210                |
| Die temperature (°C)              |                                | 235                |
| Tube takeoff speed (m/min)        |                                | 6                  |
| Each layer thickness (mm)         | Outer layer                    | 1.0                |
|                                   | Intermediate layer             | 0.2                |
|                                   | Inner layer                    | 0.3                |
| Tube diameter (mm)                |                                | 10                 |
| Adhesive strength (N/cm)          | Outer layer/intermediate layer | Separated by hand  |
|                                   | Intermediate layer/inner layer | -                  |

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signed this <sup>27</sup>~~26~~th day of Nov. , 2009

Takeshi Inaba

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